

What is claimed is:

1. A receiver for a spread spectrum communication system comprising:
an acquiring circuit that periodically acquires in synchronization a plurality of signals received via a plurality of paths different in route from a transmitter;

a plurality of tracking circuits that track in synchronization a predetermined number of signals among the plurality of signals acquired by the acquiring circuit, respectively;

a judging circuit that judges whether present propagation condition and past propagation condition of the predetermined signals tracked by the plurality of tracking circuits are good or bad;

a selecting circuit that selects the predetermined number of signals from the plurality of signals acquired by the acquiring circuit, based upon the present propagation condition and the past propagation condition of the signal judged by the judging circuit, to allow the plurality of tracking circuits to track the predetermined number of signals selected by the selecting circuit.

2. A receiver as set forth in claim 1, wherein when a signal tracked by a tracking circuit at the previous cycle coincides with a signal acquired by the acquiring circuit at the present cycle, the judging circuit judges that the present propagation condition of the signal tracked by the tracking circuit is good.

3. A receiver as set forth in claim 1, wherein when a signal tracked by a tracking circuit at the present cycle was acquired by the acquiring circuit a plurality of times at cycles prior to the present cycles, the judging circuit

judges that the past propagation condition of the signal tracked by the tracking circuit was good.

4. A receiver as set forth in claim 1, wherein when the predetermined number of signals tracked by the plurality of tracking circuits at the previous cycle each do not coincide with any of the plurality of signals acquired by the acquiring circuit at the present cycle, the selecting circuit allows at least one of the plurality of tracking circuits to continue tracking at the present cycle one of the predetermined number of signals that the one of the plurality of tracking circuits tracked at the previous cycle, based upon the past propagation condition of the predetermined number of signals.

5. A receiver as set forth in claim 4, wherein the selecting circuit allows one of the plurality of tracking circuits that tracked at the previous cycle one of the predetermined number of signals that was the best among predetermined number of signals, to continue tracking at the present cycle the one of the predetermined number signals.

6. A receiver as set forth in claim 4, wherein when the past propagation condition of the predetermined number of signals were similar to each other at the previous cycle, the selecting circuit allows one of the plurality of tracking circuit to continue tracking at the present cycle one of the predetermined number of signals based upon power value of predetermined number of signals.

7. A receiver for a spread spectrum communication system comprising:
an acquiring unit that periodically acquires a plurality of signals received via a plurality of different paths from a transmitter; and

a plurality of tracking units that track the plurality of signals acquired by the acquiring unit, respectively,

wherein the acquiring unit allows one tracking unit to continue acquiring the signal that the tracking unit is tracking, and allows the other tracking units to commence tracking the signals that the acquiring unit newly acquires, upon judging there is no signal common to all the signals that the tracking units are tracking and all the signals that the acquiring unit newly acquires.

8. A receiver as set forth in claim 7,

wherein the tracking units each include a first flag and a second flag, the first flag being used to indicate the probability that the signal that the tracking signal is not a noise is large when the signal that the tracking unit is tracking coincides with a signal that the acquiring unit newly acquires, and the second flag being used to indicate that the signal that the tracking unit is tracking is not a signal that the acquiring unit newly acquires when the signal that the tracking unit is tracking is not a signal that the acquiring unit newly acquires, and

wherein when all the first flags each indicate that the probability is low, the acquiring unit allows the tracking unit corresponding to the second flag that indicates the signal that the tracking unit is tracking is not a signal that the acquiring unit newly acquires, to continue tracking the signal that the tracking unit is tracking.

9. A receiver as set forth in claim 8,

wherein when a first plurality of second flags among the plurality of

second flags indicate the signals that the tracking unit are tracking are not signals that the acquiring unit newly acquires, the acquiring unit allows the tracking unit corresponding to one of the first plurality of second flags to continue tracking the signal that the tracking unit is tracking.

10. A receiver as set forth in claim 9,
wherein the acquiring unit judges the allowance of the tracking continuation based upon the powers of the signals that the tracking units are tracking.

11. A receiver as set forth in claim 8,
wherein when all the second flags each indicate the signal that the tracking unit is tracking is a signal that the acquiring unit newly acquires, the acquiring unit allows one tracking unit to continue tracking the signal that the tracking unit is tracking.

12. A receiver as set forth in claim 11,
wherein the acquiring unit judges the allowance of the tracking continuation based upon the powers of the signals that the tracking units are tracking.

13. A synchronization acquiring apparatus comprising:
a plurality of synchronization tracking circuits;
first flags each provided for one of said synchronization tracking circuits, each of the first flags being brought into a flag-off condition upon initiation of a synchronization acquiring operation and into a flag-on condition when a synchronizing position of a reception response agrees with a

synchronizing position being tracked by a corresponding one of said synchronizing tracking circuits; and

second flags each provided for one of said synchronization tracking circuits, each of the second flags being brought into the flag-on condition when a synchronizing position is allocated to a corresponding one of said synchronization tracking circuits and into the flag off condition when the synchronizing position of the reception response agrees with the synchronizing position being tracked by a corresponding one of said synchronizing tracking circuits during a subsequent synchronization acquiring operation, each of the second flags being kept in the flag-off condition until the synchronizing position is allocated to a corresponding one of said synchronization tracking circuits.

14. A synchronization acquiring apparatus as set forth in claim 13, further comprising first allocation inhibit synchronization tracking circuit selecting means for selecting one of said synchronization tracking circuits specified by the second flags that are in the flag-off condition when the first flags are all in the flag-off condition and defining the selected synchronization tracking circuit as an allocation inhibit synchronization tracking circuit to have the selected synchronization tracking circuit continue to track synchronization.

15. A synchronization acquiring apparatus as set forth in claim 13, further comprising second allocation inhibit synchronization tracking circuit selecting means for selecting one of said synchronization tracking circuits specified by the second flags that are in the flag-on condition when the first flags are all in the flag-off condition and defining the selected synchronization tracking circuit as an allocation inhibit synchronization tracking circuit to have the selected

synchronization tracking circuit continue to track synchronization.

16. A synchronization acquiring apparatus as set forth in 13, further comprising:

first allocating synchronization tracking circuit selecting means for selecting one of said synchronization tracking circuits that is at rest as an allocating synchronization tracking circuit which is to track a new synchronizing position;

second allocating synchronization tracking circuit for selecting one of said synchronization tracking circuits that is operating and specified by the first flag in the flag-off condition as the allocating synchronization tracking circuit when there is said synchronization tracking circuit specified by the first flag that is in the flag-on condition; and

third allocating synchronization tracking circuit for selecting one of said synchronization tracking circuits that is operating and not the allocation inhibit synchronization tracking circuit as the allocating synchronization tracking circuit.

17. A synchronization acquiring apparatus as set forth in claim 13, further comprising third allocation inhibit synchronization tracking circuit selecting means for selecting from said synchronization tracking circuits specified by the second flags in the flag-off condition when the first flags are all in the flag-off condition one showing the greatest tracked correlation power as the allocation inhibit synchronization tracking circuit to have the selected synchronization tracking circuit continue to track synchronization.

18. A synchronization acquiring apparatus as set forth in claim 13, further

comprising fourth allocation inhibit synchronization tracking circuit selecting means for selecting from said synchronization tracking circuits specified by the second flags in the flag-on condition when the first flags are all in the flag-off condition and the second flags are in the flag-on condition one showing the greatest tracked correlation power as the allocation inhibit synchronization tracking circuit to have the selected synchronization tracking circuit continue to track synchronization.

19. A synchronization acquiring apparatus as set forth in claim 13, further comprising:

first allocating synchronization tracking circuit selecting means for selecting one of said synchronization tracking circuits that is at rest as an allocating synchronization tracking circuit which is to track a new synchronizing position;

second allocating synchronization tracking circuit for selecting one of said synchronization tracking circuits that is operating and specified by the first flag in the flag-off condition as the allocating synchronization tracking circuit when there is said synchronization tracking circuit specified by the first flag that is in the flag-on condition; and

fourth allocating synchronization tracking circuit for selecting from said synchronization tracking circuits that are operating and not defined as the allocation inhibit synchronization tracking circuit as the allocating synchronization tracking circuit one showing the smallest tracked correlation power as the allocating synchronization tracking circuit.

20. A receiver for a spread spectrum communication system provided with an acquiring circuit that cyclically acquires synchronization of a plurality of

signals received via multiple paths from a transmitter, with a spread code provided in the receiver, and a plurality of tracking circuits that track a given number of ones of the plurality of signals acquired by the acquiring circuit for demodulation, the receiver comprising:

a judging circuit that judges whether propagation conditions of the given number of signals in a first cycle and in a second one of a plurality of cycles previous to the first cycle are higher than a given quality level or not; and

a selecting circuit that, when the judging circuit judges a propagation condition of one of the given number signals in at least one of the first cycle and the second cycle is not higher than the given quality level, selects the given number of signals excluding the one signal that the tracking circuits should track in the first cycle, from the plurality of signals.